

**ABSTRACT OF THE DISCLOSURE**

An automated self-calibrating water quality monitoring sensor housing assembly includes a number of ion-selective electrodes combined in a single flow train to provide for the multi constituent analysis of a number of samples without direct intervention by a human operator. An operator can enter the laboratory, connect sample bottles to an intake manifold, activate the device, and download data once the analysis is complete. With the exception of periodic probe maintenance, the system is designed to be self-calibrating and self cleaning.